

IN THE CLAIMS:

Please CANCEL Claims 1-9. Please ADD claims 21-36. Please also amend the claims as follows:

1-9. (cancelled)

10. (presently amended) A method of processing in a network server,
comprising the steps of:

receiving from a remote mobile client a representation of a geographical location,
said representation being transmitted at least partially via a transport layer over a packet
switched communication network at a transport layer or above by communicating with a
first network access point at a lower layer using a first air interface protocol;

sending to said remote mobile client an indication of a second air interface
protocol and a set of parameters for use in accessing a second wireless network access
point using said second air interface protocol; and

sending to said second wireless network access point an indication of said remote
mobile client and a code requesting said second wireless network access point to provide
wireless access to said remote client[.];

wherein the server method is implemented to centrally manage a roaming
operation for the remote mobile client and the remote mobile client can perform
application layer, client-server interactions with a network application server when
coupled to the first wireless access point and later when coupled to the second access
point.

11. (previously presented) The method of Claim 10 wherein said set of
parameters comprises a software module defined to execute over a Java virtual machine,
said software module defining at least a portion of a software layer of said second air
interface;

12. (presently amended) The method of Claim 11, wherein said set of
parameters comprises a software module, an executable software program said software
module is defined described as a resource in a resource description language, and the
software module comprises a subset of submodules that are not already present in and
need to be loaded into the remote mobile client in order to build the executable software
program. ~~said server transmits only submodules needed to build said resource.~~

1 ~~13.~~ (presently amended) The method of Claim ~~10~~¹, further comprising:
2 selecting said second wireless access point based on an optimization criterion,
3 said optimization criterion that is a function of at least one user preference.

1 ~~14.~~ (presently amended) The method of Claim ~~10~~⁵, further comprising:
2 selecting said second wireless access point from a pool of federated wireless
3 access points supplied by registered associates, whereby said selection is based at least in
4 part on said representation and an optimization criterion that is a function of at least one
5 user preference.

1 ~~15.~~ (cancelled)

1 ~~16.~~ (presently amended) A method of selling federated wireless access services
2 with the assistance of associates, the federated wireless access services accessible to
3 users of a merchant web site system which provides services for allowing users to
4 electronically lease wireless access connectivity, the method comprising:

5 enrolling a plurality of associates using an on-line registration system, whereby
6 ~~each said associate indicates a respective one of said associates indicates~~ an air interface
7 protocol used by a wireless access point system supplied by said respective associate;

8 receiving from a remote client a representation of a geographical location, said
9 representation being transmitted using a first air interface protocol via a first wireless
10 network access point;

11 at least partially in response to the representation, selecting a second wireless
12 access point to provide wireless access to the remote client;

13 sending to said remote client an indication of a second air interface protocol and
14 a set of parameters for use in accessing ~~a selected one of said~~ the second wireless
15 network access ~~points~~ point using said second air interface protocol; and

16 sending to ~~said selected~~ the second wireless network access point ~~an indication of~~
17 ~~said remote client and~~ a code requesting said selected wireless network access point to
18 provide wireless access to said remote client.

1 ~~17.~~ (presently amended) The method of Claim ~~10~~⁶ wherein said set of
2 parameters comprises a software module defined to execute over a Java virtual machine,
3 said software module defining at least a portion of a software layer of said second air
4 interface.

8
18. (presently amended) ~~The method of Claim 11 wherein said software module is defined as a resource in a resource description language, and said server transmits only submodules needed to build said resource.~~

6
The method of Claim 16, wherein said set of parameters comprises a software module, an executable software program is described as a resource in a resource description language, and the software module comprises a subset of submodules that are not already present in and need to be loaded into the remote mobile client in order to build the executable software program.

19. (presently amended) The method of Claim 10 16, further comprising:
selecting said second wireless access point based on an optimization criterion,
wherein said optimization criterion that is a function of at least one user preference.

20. (presently amended) The method of Claim 10 16, further comprising:
maintaining a first financial record used for billing said client; and
maintaining a second financial record used for compensating the associate associated with said selected second wireless network access point.

21. (new) A wireless terminal apparatus comprising:
a wireless transceiver adapted to communicate with a first network access point using a first air interface protocol;
a software function that communicates at least partially via a wireless path using the first air interface protocol with a corresponding peer software function in a remote roam-management server, the communication being performed at the transport layer or above;
a programmable software radio processor adapted to implement at least one of a physical layer and a link layer of a second wireless air interface protocol; and
a software radio configuration module coupled to said transceiver;
wherein said apparatus is configured to:

(i) perform a data transaction with said remote roam management server to identify to said roam-management server a geographical location associated with said apparatus, and in response thereto, to obtain wirelessly at least one software module comprising program instructions and to pass said at least one software module to said software radio processor;

17 (ii) execute in said software radio processor said program instructions in said
18 at least one software module, the program instructions being executed to implement at
19 least a portion of the second air interface protocol in order support communication with a
20 second wireless network access point that uses the second air interface protocol; and

21 (iii) perform a handoff operation to switch the transceiver from the first
22 wireless network access point using the first air interface protocol to the second wireless
23 network access point using the second air interface protocol, and to support
24 communication with at least one remote network server at the transport layer or above
25 using said first air interface protocol prior to the handoff and using said second air
26 interface protocol prior to the handoff operation;

27 wherein the software module is received from the remote roam management
28 server to allow the wireless terminal apparatus to dynamically roam onto a network that
29 uses the second air interface protocol, wherein a complete set of program code needed to
30 implement the second air interface protocol was not present in the wireless terminal
31 apparatus prior to the handoff operation.

1 ¹²~~22~~. (new) The wireless terminal apparatus according to Claim ¹¹~~21~~, wherein the
2 program instructions wirelessly received in the software module are in the native
3 machine language of the software radio processor.

1 ¹³~~23~~. (new) The wireless terminal apparatus according to Claim ¹¹~~21~~, wherein the
2 program instructions wirelessly received in the software module are pre-compiled into
3 the native machine language of the software radio processor before being executed.

1 ¹⁴~~24~~. (new) A wireless terminal apparatus comprising:

2 a wireless transceiver adapted to communicate with a first network access point
3 using a first air interface protocol;

4 a software function that communicates at least partially via a wireless path using
5 the first air interface protocol with a corresponding peer software function in a remote
6 roam-management server, the communication being performed at the transport layer or
7 above;

8 a programmable software radio processor adapted to implement at least one of a
9 physical layer and a link layer of a second wireless air interface protocol; and

10 a software radio configuration module coupled to said transceiver;

11 wherein said apparatus is configured to:

- 12 (i) perform a data transaction with said remote roam management server to
13 identify to said roam-management server an indication of radio contact with a local
14 wireless access point, and in response thereto, to obtain wirelessly at least one software
15 module and to pass said at least one software module to said software radio processor;
16 (ii) execute in said software radio processor said at least one software module
17 to implement at least a portion of the second air interface protocol in order support
18 communication with the local wireless network access point that uses the second air
19 interface protocol; and
20 (iii) perform a handoff operation to switch the transceiver from the first
21 wireless network access point using the first air interface protocol to the local wireless
22 network access point using the second air interface protocol, and to support
23 communication with at least one remote network server at the transport layer or above
24 using said first air interface protocol prior to the handoff and using said second air
25 interface protocol prior to the handoff operation;

26 wherein the software module is received from the remote roam management
27 server to allow the wireless terminal apparatus to dynamically roam onto a network that
28 uses the second air interface protocol, wherein a complete set of program code needed to
29 implement the second air interface protocol was not present in the wireless terminal
30 apparatus prior to the handoff operation.

1 ¹⁵ 25. (new) The wireless terminal apparatus according to Claim 24, wherein the
2 program instructions wirelessly received in the software module are in the native
3 machine language of the software radio processor.

1 ¹⁶ 26. (new) The wireless terminal apparatus according to Claim 24, wherein the
2 program instructions wirelessly received in the software module are pre-compiled into
3 the native machine language of the software radio processor before being executed.

1 ¹⁷ 27. (new) A wireless terminal apparatus that is configured to roam from a
2 first wireless access point that uses a first air interface protocol to a second wireless
3 access point that uses a second air interface protocol, comprising:

4 at least one client-side application layer program that communicates with at least
5 one remote network server using an application layer protocol that layers over the first air

6 interface protocol at a first time before a roam operation and over the second air interface
7 protocol at a second time after the roam operation, wherein the roam operation is
8 performed to switch wireless access from the first wireless access point to the second
9 wireless access point;

10 a software radio configuration module that communicates with a remote roam
11 management server, wherein the software radio configuration module is operative to
12 report to the remote roam management server dynamic location-based information that
13 indicates that the terminal apparatus is in a locality of the second wireless access point,
14 and at least partially in response thereto, to receive from the remote roam management
15 server a second executable software module; and

16 a software radio transceiver coupled to the software radio configuration module,
17 wherein prior to the roam operation the software radio transceiver is operative to
18 implement at least a portion of the first air interface protocol according to a first
19 executable software module, and after the roam operation the software radio transceiver
20 is operative to implement at least a portion of at least one of a physical layer and a link
21 layer of the second air interface protocol according to the second executable software
22 module.

23 ¹⁸ 28. (new) The apparatus according to Claim ¹⁷ 27, wherein the software radio
24 configuration module communicates with the remote roam management server via a
25 communication management session at a layer above a transport layer in a
26 communications protocol stack.

27 ¹⁷ 29. (new) The apparatus according to Claim ¹⁷ 27, wherein said second executable
28 software module is defined to execute over a Java virtual machine, and is translated into a
29 more efficient execution language prior to execution.

1 ²⁰ 30. (new) The apparatus according to Claim ¹⁷ 27, wherein said software radio
2 configuration module makes use of a resource description language description to
3 identify a set of executable software resources needed to implement a software radio
4 program that implements at least a portion of a layer of an air interface protocol, and
5 software radio configuration module uses the resource description language description
6 to identify a subset of one or more executable software modules are not already present in

7 the apparatus and that need to be loaded into the apparatus in order to build the software
8 radio program that implements the second air interface protocol.

1 ²⁵31. (new) The apparatus according to Claim ²⁷27, wherein said executable
2 software modules respectively implement first and second physical layers of the first and
3 second air interface protocols.

1 ²²32. (new) The apparatus according to Claim ²¹31, wherein the first physical layer
2 corresponds to an open-road transceiver physical layer and said second physical layer
3 corresponds to a toll-tag physical layer.

1 ²³33. (new) The apparatus according to Claim ²²32, wherein said first physical layer
2 corresponds to a wireless macrocellular network physical layer and said second physical
3 layer corresponds to a local-area wireless access physical layer.

1 ²⁴34. (new) The apparatus according to Claim ¹²27, further comprising:
2 a global positioning system (GPS) receiver and a GPS processor, said GPS
3 processor coupled to said GPS receiver;

4 wherein

- 5 (i) said GPS processor uses a set of GPS signals received via said GPS
6 receiver to compute a representation of a geographical location;
7 (ii) said software radio transceiver transmits said representation to said remote
8 roam management server; and
9 (iii) said remote roam management server uses the representation of the
10 geographical location to identify the second air interface protocol.

1 ²⁵35. (new) The apparatus according to Claim ¹²27, further comprising:
2 a local positioning system (LPS) receiver and a LPS processor, said LPS
3 processor coupled to said LPS receiver;

4 wherein

- 5 (iii) said LPS processor uses a set of LPS signals received via said LPS
6 receiver to compute a representation of a geographical location;
7 (iv) said software radio transceiver transmits said representation to said remote
8 roam management server; and
9 (iii) said remote roam management server uses the representation of the
10 geographical location to identify the second air interface protocol.